

Remote Sensing Applications Division (RSAD)

CDR Program Office

Weekly Report for July 22, 2011 John J Bates, Chief



• 1 Sea Ice

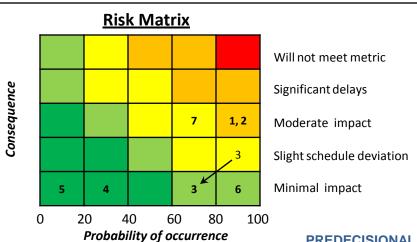
CDR Program Office

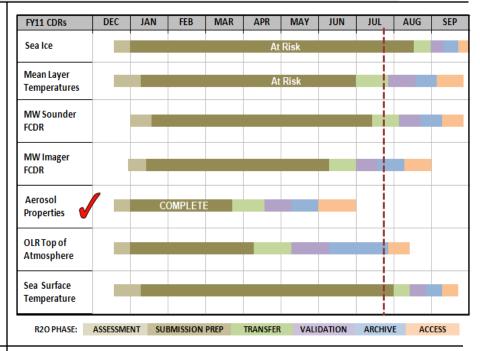
FY11 Climate Data Records

Weekly Report -July 22, 2011

- Jeff went over the schedule with PI on June 30 during PI's visit
- **↓2** Mean Layer Temperatures
 - Met with PI, contract in work for documentation
- **↓3** Microwave (MW) Sounder FCDR
 - PI will complete documentation and deliver by the end of July
- 4 Microwave (MW) Imager FCDR
 - Documentation is complete, ready for archiving
- S Aerosol Properties
 - CDR is available for public access Completed June 16
- 6 Outgoing Longwave (LW) Top of Atmosphere
 - · Waiting on final data file form PI
- **7** Sea Surface Temperature
 - CICS Contract needs a push; SLA ready for signatures







Risk and Mitigation

Sea Ice

• Daily Schedule developed – Jeff met with PI, he seems on board

Mean Layer Temps

• Daily Schedule developed – contract in work for documentation delivery

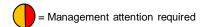
Sea Surface Temp

- NCDC/NODC SLA agreed upon at DO's office for signatures
- CICS contract moving slowly asked Janice for a contact at U of Md

PREDECISIONAL DRAFT INFORMATION



= Potential management action required



Sea Ice

CDR Product: TCDR - Sea ice concentration, 1979-2010 (20 GB) **GEOSS Societal Benefit:** Climate, Water, Ecosystems, Agriculture

Project Status

- · Developer will be here for CDR meeting in Aug
- SA draft sent to PI for review PI sent responses back
- Detailed schedule sent to PI on June 10. Jeff went over the schedule with PI on June 30 during PI's visit to NCDC
- SLA draft was provided to PI at the meeting on June 30
- NSIDC developers are working on code to read swath BT data, re-grid, and feed data into the algorithm modules, integrating the modules into the NSIDC operational system, and merging the NSIDC BT/NT products into the CDR product
- Sample NetCDF files, a list of global attributes, and sample CDR code reviewed; Comments and suggestions provided to PI

Next Action / Milestone

- PI deliver inputs on SA (7/18) done
- PI deliver completed sample Files, Draft CATBD, Partial code (8/15)
- TM return comments on sample files, CATBD, and code (8/19)



Project Risks

- Schedule for NSIDC product and NCDC R2O team is very tight
 - Developed detailed schedule to help prevent further slips
- NSIDC will be serving the data to the public
- PI does not have much control over the center-wide dev schedule
- The codes that will be delivered are pieces of the NSIDC operational system

ID	Task Name	Status	Start	Ston		FY11 Q1			FY11 Q2			FY11 Q3		FY11 Q4		
IU	I dSK NdIIIe	Status	Start	Stop	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	12/7/2010	1/7/2011												
2	Transfer Prep	50	1/7/2011	8/15/2011												
2a	Comment Source Code	50	4/15/2011	8/15/2011												
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	50	1/7/2011	8/15/2011												
2c	Convert data from binary to NetCDF	50	3/1/2011	8/15/2011												
3	Tranfer Code, Docs, and Data	0	7/15/2011	8/31/2011												
4	Verify Code, Docs, and Data	0	7/31/2011	9/7/2011												
5	Archive Code, Docs, and Data	0	8/15/2011	9/21/2011												
6	Provide Access to Code, Docs, and Data	0	9/1/2011	9/30/2011												
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Mean Layer Temperatures

CDR Product: TCDR - Monthly gridded anomalies for three layers (LT, MT, LS), 1978-2010 (60 GB)

GEOSS Societal Benefit: Energy, Climate, Ecosystems

Project Status

- Met with PI at AMS conference (Jeff, Lei, Dan, Dongsoo, Phil)
 - Decided documentation could be done in a two weeks with funding for two FTE to work on it SS contract in the works
 - PI agreed to draft SOW, at NCDC contracting office
 - PI will checksum the data so netCDF conversion can proceed
- Mike Urzen has created sample netCDF file being reviewed
- Sent PI a detailed schedule that would get this CDR done early
- Received Flow Chart, PI is working on code documentation
 - contract will get it moving much quicker, no longer just free time
- Code samples received did not have any header documentation
 returned one of his samples with proper headers for template

Next Action / Milestone

- PI create checksums for ASCII files (7/22)
- Finalize SA (7/25)
- Archive ASCII files (7/26)
- PI Deliver Draft CATBD (7/29) Roy Spencer will create first draft



- Data is ASCII format Mike Urzen will convert to NetCDF
- PI has limited resources available to work on code clean up, comments and documentation – contract in work

ID	Task Name	Status Start Stop			FY11 Q2			FY11 Q3			FY11 Q4		
IU	Task Name	Status	Start	Stop	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	1/1/2011	1/15/2011									
2	Transfer Prep	65	1/15/2011	8/5/2011									
2a	Comment Source Code	75	1/15/2011	7/29/2011									
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	50	3/15/2011	8/5/2011									
2c	Convert from ASCII to NetCDF	50	4/30/2011	8/1/2011									
3	Tranfer Code, Docs, and Data	0	6/21/2011	8/5/2011									
4	Verify Code, Docs, and Data	0	7/15/2011	8/21/2011									
5	Archive Code, Docs, and Data	0	8/7/2011	9/7/2011									
6	Provide Access to Code, Docs, and Data	0	9/1/2011	9/21/2011									

Microwave Sounder FCDR

CDR Product: FCDR - AMSU-A Brightness Temperature, CH 9; 2001 - 2010 (100 GB)

GEOSS Societal Benefit: Climate, Water, Ecosystems

Project Status

- Sent SA to PI
- Had PI and his programmer on telecon for IPT meeting
- PI agreed to use current daily schedule for delivery
- -- send everything by Aug 5
- PI talked about a UCAR/NCDC agreement
 - -- Is this Fair Use Clause or some other discussion Jeff had???
- •CDRP Decision was made, after telecon with PI, to proceed with CH9 only the risk of CH7 not meeting IOC CDR requirements was too high
- Received an updated version of code, test data and readme

Next Action / Milestone

- Deliver SA to PI for review (7/18) done
- PI deliver draft CATBD (7/25)
- PI deliver Flow Chart and MM (7/27)
- PI deliver final netCDF files (8/1)



- PI concerned about his source code being widely available
 - PI would like to be the one to distribute it
 - Need to finalize policy on source code release

ID	Task Name	Status	Status Start Stop FY11 Q2 FY1				FY11 Q3			FY11 Q4			
IU	Task Name	Status	Start	Stop	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	1/1/2011	1/15/2011									
2	Transfer Prep	90	1/15/2011	7/28/2011									
2a	Comment Source Code	90	1/15/2011	7/28/2011									
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	90	3/15/2011	7/28/2011									
2c	Format Data for delivery	90	4/30/2011	7/28/2011									
3	Tranfer Code, Docs, and Data	25	6/1/2011	8/8/2011									
4	Verify Code, Docs, and Data	25	7/1/2011	8/15/2011									
5	Archive Code, Docs, and Data	0	8/1/2011	9/8/2011									
6	Provide Access to Code, Docs, and Data	0	9/1/2011	9/21/2011									

Microwave Imager FCDR

CDR Product: FCDR - Intercalibrated SSM/I Brightness Temperatures (V6), 1987 – 2010 (1720 GB)

GEOSS Societal Benefit: Climate, Water, Ecosystems

Project Status

- Sent sample files to Access for initial evaluation
- Data, source code, and doc packages are ready for the archive
- TM completed FCDR data production on local server
- TM completed CATBD
- TM completed README file
- Completed source code comments and created source code header document with robodoc
- Submitted all documents and code into Subversion repository

Next Action / Milestone

- Create Header document
- Archive code, documentation and data
- Get data on THREDDS
- Update CDR web page



- PI will not assist making the data an operational CDR
- POC will be responsible for converting data to NetCDF, documentation, and commenting the code.

ID	Task Name	Status Start Stop			FY11 Q2			FY11 Q3			FY11 Q4 Aug Sep		
IU	Task Name	Status	Start	Stop	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	1/1/2011	1/15/2011									
2	Transfer Prep	100	1/1/2011	7/21/2011									
2a	Comment Source Code	100	1/1/2011	3/31/2011									
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	100	1/1/2011	7/21/2011									
2c	Format data from binary to NetCDF	100	2/1/2011	4/30/2011									
3	Tranfer Code, Docs, and Data	100	5/21/2011	7/29/2011									
4	Verify Code, Docs, and Data	100	6/15/2011	8/5/2011									
5	Archive Code, Docs, and Data	20	7/8/2011	8/15/2011									
6	Provide Access to Code, Docs, and Data	0	8/1/2011	8/31/2011									

Aerosol Properties

CDR Product: TCDR - Aerosol Optical Thickness (AOT), 1981 – 2010 (430 GB)

GEOSS Societal Benefit: Disasters, Health, Climate, Ecosystems

Project Status

CDR is publicly available on the CDR web site
 Completed June 16

Next Action / Milestone

None



Project Risks

• None

ID	Task Name	Status	Start	Stop		FY11 Q1			FY11 Q2			FY11 Q3			FY11 Q4		
IU	Task Name	Status	Start	Stop	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
1	Initial Assessment	100	11/29/10	12/15/10													
2	Transfer Prep	100	1/1/2011	4/21/2011													
2a	Comment Source Code	100	1/1/2011	1/30/2011													
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	100	1/1/2011	4/21/2011													
2c	Subset CDR variables	100	2/1/2011	4/21/2011													
2d	Format data from HDF to NetCDF	100	2/15/2011	4/21/2011					11								
3	Tranfer Code, Docs, and Data	100	3/21/2011	4/30/2011					AI								
4	Verify Code, Docs, and Data	100	4/15/2011	5/15/2011													
5	Archive Code, Docs, and Data	100	5/8/2011	6/8/2011													
6	Provide Access to Code, Docs, and Data	100	6/1/2011	6/30/2011													

Outgoing Longwave Radiation - Top of Atmosphere

CDR Product: FCDR - HIRS OLR Time Series, monthly mean, 2.5 deg, 1979 – 2010 (20 MB)

GEOSS Societal Benefit: Energy, Climate, Ecosystems

Project Status

- PI received comments from Jason and Phil on netCDF attributes, and updated the attributes in his data file.
 - Just need the final updated data file to start archive
- Received source code with README
 - completed Security Review, created Header Document
- · Received ATBD, Flow Chart, and MM

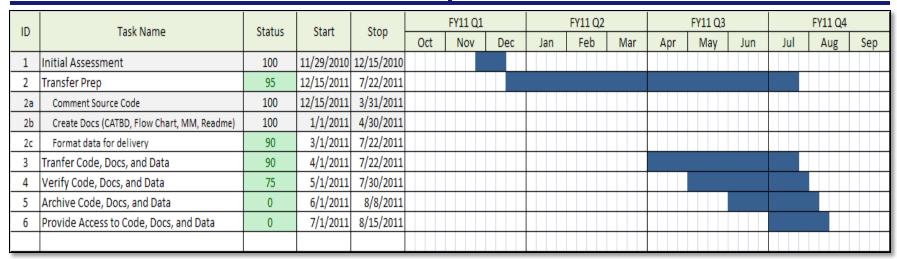
Next Action / Milestone

- Receive final data file from PI (7/29)
- Archive source code, documentation and data packages (8/8)
- Get data on THREDDS (8/14)
- Provide web access to CDR (8/15)



Project Risks

Minimal risk involved



Sea Surface Temperature

CDR Product: TCDR - Pathfinder v5.2, Daily nighttime and daytime global SST fields, 1981-2010, (4000 GB) **GEOSS Societal Benefit**: Climate, Water, Ecosystems, Agriculture

Project Status

- Received comments from NODC on SLA
 - Agreed to all changes and back with director for signatures
- Plan B: ftp HDF data from UoM, convert to netCDF at NCDC, serve dataset to public ourselves – on hold since SLA agreed on
- · Documentation hire with CICS, official start date will be 1 July
 - Kay has not received contract yet and won't deliver CATBD or other documentation until she sees it (Janice still at finance for approval, then goes to U of Md, then NCS) not sure how long
- Separate SA needed for deliveries from Bob and Kay (UofM/CICS)
- Working on standard SA for the other parts of the CDR

Next Actions / Milestone

- Sign NODC SLA/SA (7/22) at DO for signatures
- Create SA for code/documentation (8/9)
- PI Deliver: Draft CATBD (8/15)
- NODC create complete set of netCDF data files (8/31)
- NODC deliver a copy of netCDF Data Files to NCDC as in SA (8/31)
- Archive complete CDR netCDF dataset (8/31)



- Processing from level 1b to HDF has been accomplished for all sats - some small gaps exist
- Documentation is via CICS consultant work has started
- Final SST data set will be served by NODC

ID	Task Name	Status	Ctort	C+on		FY11 Q1	l		FY11 Q	2	FY11 Q3				FY11 Q4		
טו	lask Name	Status	Start	Stop	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
1	Initial Assessment	100	11/29/10	12/15/10													
2	Create HDF product (v5.2) 1981-2010 (UoM)	100	12/15/10	5/21/11				N18	N16	N7 N9	N11 N14	1					
3	Convert HDF to netCDF (NODC)	75	2/1/11	6/30/11													
4	Comment Source Code	20	2/15/11	8/21/11						NODC		CICS H	ire				
5	Create Documents	10	2/15/11	8/21/11						NODC		CICS H	ire				
6	Tranfer Copy of Data, Code and Docs	5	5/1/11	8/31/11								Data		C&D			
7	Verify Data, Code and Docs	5	6/1/11	9/7/11									Data	C&D			
8	Archive Data, Code and Docs	0	7/1/11	9/15/11										Data	C&D		
9	Provide Access to Data, Code and Docs	0	8/1/11	9/21/11													
	(Point to Data served at NODC)																

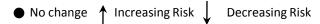


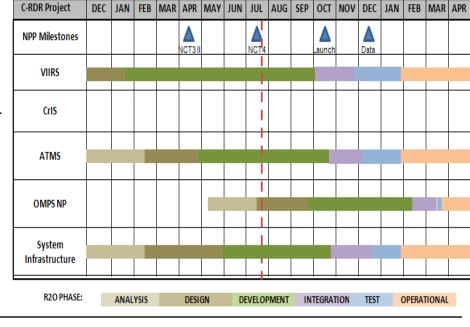
CDR Program Office

NPP/JPSS Climate Raw Data Records (C-RDRs) Project

Weekly Report - July 22, 2011

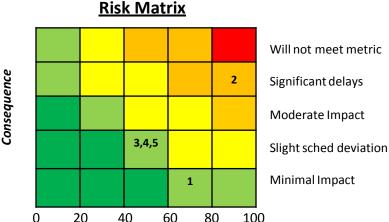
- VIIRS
- Began coding the VIIRS C-RDR generator application in ADL.
- 2 CrIS
- Developing code to write the CrIS C-RDR.
- Delaying CrIS C-RDR development until CrIS code is available.
- 3 ATMS
- Developing code to write the ATMS C-RDR.
- **OMPS NP**
 - Finished and tested Ver0.1 OMPS C-RDR prototype
- **System Infrastructure**
 - Established subscriptions and receiving RDRs from CLASS as part of the NPP Compatibility Test 4 (NCT4).







Probability of occurrence



Risk and Mitigation

VIIRS, CrIS, ATMS, OMPS NP, System Infrastructure -

- Operational software is under maintenance, updated versions may affect C-RDR ported version.
- Contractor claims CrIS DR software is proprietary so cannot use for development. Working with old (2007) version of CrIS code. Delay till claim is resolved.

System Infrastructure -

• Availability of automated receipt of NPP RDRs from the CLASS system. Need to test ingest of RDRs from CLASS and develop an automated mechanism for re-requesting data.

PREDECISIONAL DRAFT INFORMATION



= Potential management action required



Visible Infrared Imaging Radiometer Suite (VIIRS)

C-RDR Product: Raw sensor measurements with usage and provenance metadata in easily accessible netCDF4 format **GEOSS Societal Benefit**: Climate, Water, Ecosystems, Agriculture, Biodiversity, Energy

Project Status

- Completed build of the ADL 3.0 release.
- Installed the new release at Boulder site for C-RDR supporting data files development.
- Coding the VIIRS C-RDR generator application in ADL.
- Updated the VIIRS Product Specification.
- Defined pre-processing for VIIRS supporting data files that are useable with ADL.
- Developing software to create the C-RDR, reusing the ADL.
- Completing release of netCDF4 file creation toolset.
- Developed and demonstrated toolset to define and initialize netCDF4 files.

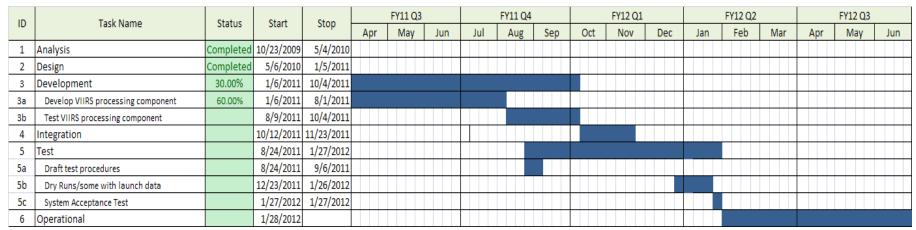
Next Action / Milestone

• Development complete for the VIIRS C-RDR



Project Risks

- Complexity of the NPP/JPSS RDRs and operational software
- Operational software is under maintenance, updated versions may affect C-RDR ported version



Cross-track Infrared Sounder (CrIS)

C-RDR Product: Raw sensor measurements with usage and provenance metadata in easily accessible netCDF4 format **GEOSS Societal Benefit**: Climate, Water, Energy

Project Status

- Wrote and tested CrIS C-RDR processing code to create proxy interferogram data-filled C-RDRs from input RDRs
- Developing and debugging code to create data structures for writing the C-RDR.
- Creating a MATLAB reader for the C-RDR to provide easy access.
- Evaluating processing of C-RDR with MATLAB and IDL
- Defining the netCDF4 structure for the C-RDR and developing software for writing the C-RDR
- CrIS IDPS software changes are not available to contractors. This
 affects C-RDR and ADL development and Cal/Val teams, SDS.
- Ported operational algorithms (Space Dynamics Lab at Utah State)

Next Action / Milestone

- Delay until the CrIS SDR code is releasable. JPSS Program Office is working to resolve proprietary claims with BOMEM.
- Complete definition of CrIS C-RDR



Project Risks

- CrIS science algorithms not available to contractors: C-RDR team, cal/val teams, ADL developer cannot get CrIS SDR code. Our current version of CrIS code is from 2007.
- NPP Launch Date: October 25, 2011
- Complexity of the NPP/JPSS RDRs and operational software
- Operational software is under maintenance, updated versions may affect C-RDR ported version. Mitigated by using ADL.

ID	Task Name	Status	Ctort	C+on		FY11 Q2			FY11 Q3			FY11 Q4		FY12 Q1			FY12 Q2		
טו	Task Name	Status	Start	Stop	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1	Analysis	Completed	8/16/2010	11/24/2010															
2	Design	90.00%	11/26/2010	2/15/2011															
3	Development		2/16/2011	7/22/2011															
3a	Develop CrIS processing component	60.00%	2/16/2011	5/11/2011															
3b	Test CrIS processing component		5/12/2011	7/22/2011															
4	Integration		7/25/2011	8/19/2011															
5	Test		9/1/2011	12/19/2011															
5a	Dry Runs/some with launch data		9/1/2011	12/12/2011															
5b	System Acceptance Test		12/12/2011	12/19/2011															
6	Operational		12/20/2011																

Advanced Technology Microwave Sounder (ATMS)

C-RDR Product: Raw sensor measurements with usage and provenance metadata in easily accessible netCDF4 format **GEOSS Societal Benefit**: Climate, Water, Energy

Project Status

- Working with ADL 3.0 for integration of C-RDR routines.
- Developing code to write the C-RDR.
- Completed first draft of C-RDR contents.
- Defining the C-RDR format, contents, and metadata
- Identifying code and data structures required for C-RDR processing.
- Verified processing of ATMS algorithms
- IDPS ATMS algorithm executing in ADL at NCDC
- Evaluating IDPS algorithms in ADL
- Obtained ported operational algorithms (Space Dynamics Lab at Utah State)

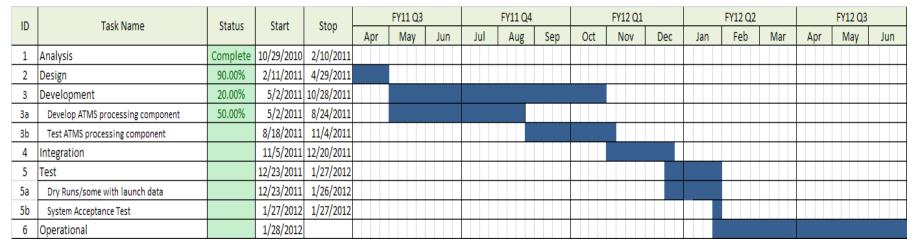
Next Action / Milestone

Develop the code to produce the C-RDR



Project Risks

- Complexity of the NPP/JPSS RDRs and operational software
- Operational software is under maintenance, updated versions may affect C-RDR ported version
- Developer shares time working NPP and CLASS issues.



Ozone Mapping Profile Suite (OMPS) Nadir

C-RDR Product: Raw sensor measurements with usage and provenance metadata in easily accessible netCDF4 format **GEOSS Societal Benefit**: Climate, Energy

Project Status

- Developing classes for the creation of the C-RDR.
- Received comments and created second draft of OMPS Nadir C-RDR prototype.
- Analyzing IDPS algorithms and documents to define the OMPS Nadir C-RDR structure.
- OMPS Nadir algorithms will be released in ADL 3.0.
- Analyzing the IDPS software for the OMPS Nadir SDR for the use in developing the C-RDR
- Updating the schedule for the OMPS Nadir C-RDR

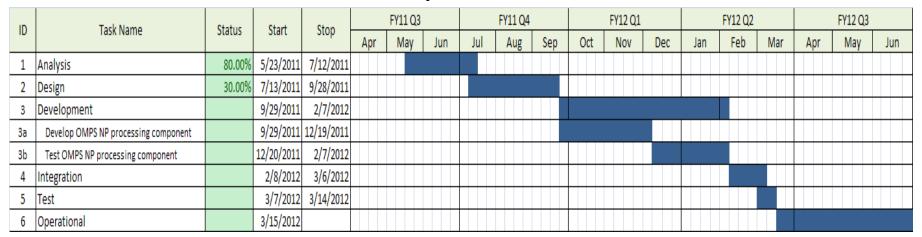
Next Action / Milestone

• Define the C-RDR format, contents, and metadata



Project Risks

- Complexity of the NPP/JPSS RDRs and operational software
- Operational software is under maintenance, updated versions may affect C-RDR ported version



C-RDR System Infrastructure

C-RDR Product: Infrastructure to automate the production of the C-RDRs.

GEOSS Societal Benefit: None

Project Status

- Receiving RDRs from CLASS via subscription during NCT4.
- Completed throughput testing for SysGenSIP and C-RDR Infrastructure.
- Successfully transferred files from FTP Farm to Blade Center and ingested for RDR throughput test.
- Creating database tables and access procedures for the database to handle configuration files.
- Setting up configuration files and software for the ingest test.
- Developing an ingest test using the aggregated RDRs.
- Working on database infrastructure design.
- Analyzing existing ingest and dissemination capabilities.

Next Action / Milestone

• Perform the throughput test.



Project Risks

- Ability of CLASS to provide full stream of RDRs and ability to ingest stream of C-RDRs. Ability of CLASS to provide RDRs will be tested during NCT4.
- Need to develop an automated re-request mechanism for CLASS.

